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10/734,812	12/11/2003	Peter A. Jardine	P/4242-6	2786

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EXAMINER	
ZIMMERMAN, JOHN J	
ART UNIT	**PAPER NUMBER**
1775	

DATE MAILED: 08/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/734,812	JARDINE, PETER A.	
	Examiner	Art Unit	
	John J. Zimmerman	1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 June 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *20050701*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

THIRD OFFICE ACTION

Amendments

1. This Third Office Action is in response to the Amendment received June 8, 2005.

Information Disclosure Statement

2. The Information Disclosure Statement received July 1, 2005 has been considered. An initialed form PTO-1449 is enclosed with this Third Office Action. Cited references that were already of record in this prosecution have been crossed through on the form PTO-1449.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In addition, the specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly

connected, to practice the invention commensurate in scope with these claims. The Jardine affidavit, received December 9, 2004, states:

> By multiplying the multitude of different compositions and the variety of different percentages of each component metal, the number of shape memory alloy compositions to try becomes infinite. Furthermore, as stated in the specification, processing conditions, such as specific ranges of target temperature, processing temperatures of the wafer, and vacuum pressures during sputter deposition are needed to make two-way shape memory effect devices. Thus, even if it is obvious to try other shape memory alloys, besides Ni:Ti, the infinite variety of shape memory alloys, percentages of component metal, and combinations of processing conditions requires undue experimentation by a routiner in the art. As the references that teach two-way shape memory devices are limited only to Ni:Ti, and alloys thereof, as an operable system, a person of ordinary skill in the art would not have sufficient expectations of success in developing new two-way shape memory effect processes with new alloys without undue experimentation. In addition, the equipment required to prepare a Ni:Ti thin-film, two-way shape memory device is very expensive and must be substantially customized to allow for controlling the important processing conditions. Furthermore, each experiment is a complicated and time-consuming task that takes laboratory time and talented technicians to prepare the targets, substrates and high vacuum chamber, sputter deposit the device under the correct processing conditions, further processing of the sample to etch at least a portion of the thin film from the substrate, preparing a method of heating the thin film or activating the shape memory effect in some other manner, and verifying that shape memory effect, if any, is repeatable and useful. Thus, undue experimentation would be necessary to determine the specific shape memory alloys and processing conditions disclosed and claimed in the above-referenced application.
>
> Furthermore, each new alloy system requires the use of a different combination of target temperature, processing temperature of the wafer, distance from the target to the wafer and vacuum pressure ranges during processing in order to successfully manufacture two-way shape memory alloy devices, requiring months of work. This depends not only on the base alloy, but also on the element or elements chosen fox X in ternary and higher order alloys, greatly increasing the complexity. Development of new shape memory alloys for two-way shape memory effect devices requires tireless effort and experimentation to synthesize and characterize materials in the correct processing range to produce practical two-way shape memory effect devices. Ternary and higher order alloys require even more work in selecting the compositional ranges for the higher order elements.

> The nearly limitless choice of alloys, chemistries and processing conditions makes selection of the right alloy constituents and process variables an exceedingly difficult task for even an expert in the field, which has necessitated research, including experimentation and calculations, to determine the desired ranges of the various processing variables.

5. The examiner notes that the majority of the pending claims in this application are simply drawn to any shape "memory alloy other than a Ni:Ti-based alloy". It appears clear from the Jardine affidavit that claims of this breadth cannot be enabled since multiplying the multitude of different compositions and the variety of different percentages of each component metal, the number of shape memory alloy compositions to try becomes infinite and requires undue experimentation in order to determine the specific shape memory alloys and processing conditions. From the Jardine affidavit it appears clear that without disclosure of particular two-way shape memory compositions and the specific processing conditions that are appropriate to those particular compositions, there would be no enablement without undue experimentation. A review of the applicant's disclosure, however, shows that the applicant's disclosure fails to disclose processing conditions for two-way shape memory compositions of the claimed breadth. Indeed, judging from the Jardine affidavit standard, the applicant's disclosure appears to fail to show processing conditions sufficient to enable any two-way shape memory effect compositions other than Ni:Ti systems. Applicant's specification simply supplies long lists of elements (e.g. see paragraphs [0069]-[0070]) that might be used in forming two-way shape memory alloys. No processing conditions or even specific alloy composition ratios are supplied. The Jardine affidavit clearly establishes that disclosures of shape memory alloys in this manner are not enabled. In view of the above, the pending claims are not enabled by the disclosure.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.
>
> The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 12-15 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Hill (U.S. Patent 6,775,046).

8. Hill discloses forming two-way shape memory alloy films in which the film can be made while varying the alloy temperature during sputtering so that the deposited article has a compositional gradient (e.g. see column 4, lines 36-49; column 6, line 47 - column 7, line 35). Hill discloses that alloys of titanium and nickel can be used, but also discloses that other shape

memory alloys such as gold-copper may be used (e.g. see column 2, lines 32-49). Regarding claims reciting and "actuator", the film of Hill has all the structural requirement to be an "actuator". Regarding claims reciting a three-dimensional shape, the shapes of Hill may be three-dimensional (e.g. see paragraph spanning columns 10 and 11).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 1-16 and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ho (U.S. Publication No. 2002/0043456) in view of Hill (U.S. Patent 6,775,046) and further in view of Bement (U.S. Publication 2002/0114108).

11. Ho (different inventive entity and published more than one year prior to the filing date of this pending application) discloses forming two-way shape memory alloy films in which the film can be made while varying the target alloy temperature during sputtering so that the deposited article has a compositional gradient (e.g. see claims 1-2). Ho also discloses processing parameters (e.g. vacuum pressure, use of argon) for sputtering two-way shape memory alloy films (e.g. see paragraphs [0059]-[0060]; Tables I-V) and how they affect the final product. Ho discloses that different three-dimensional actuator shapes can be made (e.g. paragraph [0080];

Figure 33). Although Ho may not disclose all the possible shapes that an actuator may have, it would have been obvious to one of ordinary skill in the art at the time the invention was made that any actuator shape could be made by Ho's process. Regarding claims reciting a removable scaffold structure, the substrate upon which the film of Ho is sputtered qualifies as such a structure. Ho may differ from the pending claims in that Ho may not disclose that shape memory alloys other than titanium-nickel alloys can be used for his compositionally graded sputtered two-way shape memory films. Hill, however, discloses that it was known in the art at the time this application was filed that both titanium-nickel shape memory alloys and shape memory alloys of other compositions than titanium-nickel (e.g. gold-copper, column 2, lines 32-49) could be used in the manufacture of compositionally graded sputtered two-way shape memory films (e.g. see column 4, lines 13-49). In view of Hill, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use other conventionally used and known shape memory alloys for the actuators of Ho because Hill clearly shows that non-titanium-nickel alloys would work in Ho's process. Ho and Hill discloses various shape memory alloy compositions in the art, but do not specifically mention the claimed gold-cadmium, copper-zinc-aluminum and copper-nickel-aluminum compositions. Bement is cited simply to show that gold-cadmium, copper-zinc-aluminum and copper-nickel-aluminum shape memory alloy compositions are conventional shape memory alloy compositions in the art and also that it is well understood in the art that these alloys can be formed by sputtering processes (e.g. see paragraph [0026]). In view of Bement, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use gold-cadmium, copper-zinc-aluminum and copper-nickel-aluminum shape memory alloy compositions in Ho's process because Hill clearly shows that

non-titanium-nickel alloys would work in Ho's process and Bement shows these shape memory alloy compositions are conventional in the art. In view of Ho's disclosure of the processing parameters involved in sputtering two-way shape memory alloy films, it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the sputtering process parameters for best results for each particular chosen composition.

12. Claims 1-16 and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ho (Sputter Deposition of NiTi Thin Film Exhibiting the SME at Room Temperatures, Proceedings of the Symposium 1998 ASME International Mechanical Engineering Congress and Exposition, Nashville TN, November 14-19, 1999) in view of Hill (U.S. Patent 6,775,046) and further in view of Bement (U.S. Publication 2002/0114108).

13. Ho (different inventive entity and published more than one year prior to the filing date of this pending application) discloses forming two-way shape memory alloy films in which the film can be made while varying the target alloy temperature during sputtering so that the deposited article has a compositional gradient (e.g. see abstract). Ho also discloses processing parameters (e.g. vacuum pressure, use of argon) for sputtering two-way shape memory alloy films (e.g. see entire document and figures) and how they affect the final product. Ho discloses that different three-dimensional actuator shapes can be made (e.g. see Figure 14). Although Ho may not disclose all the possible shapes that an actuator may have, it would have been obvious to one of ordinary skill in the art at the time the invention was made that any actuator shape could be made by Ho's process. Regarding claims reciting a removable scaffold structure, the substrate upon

which the film of Ho is sputtered qualifies as such a structure. Ho may differ from the pending claims in that Ho may not disclose that shape memory alloys other than titanium-nickel alloys can be used for his compositionally graded sputtered two-way shape memory films. Hill, however, discloses that it was known in the art at the time this application was filed that both titanium-nickel shape memory alloys and shape memory alloys of other compositions than titanium-nickel (e.g. gold-copper, column 2, lines 32-49) could be used in the manufacture of compositionally graded sputtered two-way shape memory films (e.g. see column 4, lines 13-49). In view of Hill, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use other conventionally used and known shape memory alloys for the actuators of Ho because Hill clearly shows that non-titanium-nickel alloys would work in Ho's process. Ho and Hill discloses various shape memory alloy compositions in the art, but do not specifically mention the claimed gold-cadmium, copper-zinc-aluminum and copper-nickel-aluminum compositions. Bement is cited simply to show that gold-cadmium, copper-zinc-aluminum and copper-nickel-aluminum shape memory alloy compositions are conventional shape memory alloy compositions in the art and also that it is well understood in the art that these alloys can be formed by sputtering processes (e.g. see paragraph [0026]). In view of Bement, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use gold-cadmium, copper-zinc-aluminum and copper-nickel-aluminum shape memory alloy compositions in Ho's process because Hill clearly shows that non-titanium-nickel alloys would work in Ho's process and Bement shows these shape memory alloy compositions are conventional in the art. In view of Ho's disclosure of the processing parameters involved in sputtering two-way shape memory alloy films, it would have been obvious to one of ordinary

skill in the art at the time the invention was made to optimize the sputtering process parameters for best results for each particular chosen composition.

14. Claims 1-16 and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ho (Sputter Deposition of NiTi Thin Film Shape Memory Alloy Using a Heated Target, Thin Solid Films 370, July 17, 2000, pp. 18-29) in view of Hill (U.S. Patent 6,775,046) and further in view of Bement (U.S. Publication 2002/0114108).

15. Ho (different inventive entity and published more than one year prior to the filing date of this pending application) discloses forming two-way shape memory alloy films in which the film can be made while varying the target alloy temperature during sputtering so that the deposited article has a compositional gradient (e.g. see abstract). Ho also discloses processing parameters (e.g. vacuum pressure, use of argon) for sputtering two-way shape memory alloy films (e.g. entire article) and how they affect the final product. Although Ho may not disclose all the possible shapes that the films may have, it would have been obvious to one of ordinary skill in the art at the time the invention was made that any functional shape memory configuration could be made by Ho's process. Regarding claims reciting a removable scaffold structure, the substrate upon which the film of Ho is sputtered qualifies as such a structure. Ho may differ from the pending claims in that Ho may not disclose that shape memory alloys other than titanium-nickel alloys can be used for his compositionally graded sputtered two-way shape memory films. Hill, however, discloses that it was known in the art at the time this application was filed that both titanium-nickel shape memory alloys and shape memory alloys of other compositions than

titanium-nickel (e.g. gold-copper, column 2, lines 32-49) could be used in the manufacture of compositionally graded sputtered two-way shape memory films (e.g. see column 4, lines 13-49). In view of Hill, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use other conventionally used and known shape memory alloys for the actuators of Ho because Hill clearly shows that non-titanium-nickel alloys would work in Ho's process. Ho and Hill discloses various shape memory alloy compositions in the art, but do not specifically mention the claimed gold-cadmium, copper-zinc-aluminum and copper-nickel-aluminum compositions. Bement is cited simply to show that gold-cadmium, copper-zinc-aluminum and copper-nickel-aluminum shape memory alloy compositions are conventional shape memory alloy compositions in the art and also that it is well understood in the art that these alloys can be formed by sputtering processes (e.g. see paragraph [0026]). In view of Bement, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use gold-cadmium, copper-zinc-aluminum and copper-nickel-aluminum shape memory alloy compositions in Ho's process because Hill clearly shows that non-titanium-nickel alloys would work in Ho's process and Bement shows these shape memory alloy compositions are conventional in the art. In view of Ho's disclosure of the processing parameters involved in sputtering two-way shape memory alloy films, it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the sputtering process parameters for best results for each particular chosen composition.

Response to Arguments

16. Applicant's arguments filed June 8, 2005 have been fully considered but they are not persuasive.

17. The rejection of claims 15-16 and 18 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 9-10 of U.S. Patent No. 6,689,486, has been withdrawn in view of applicant's amendments to the claims.

18. The pending claims continue to be rejected under 35 U.S.C. 112, first paragraph, as failing to comply with enablement requirement. The claims contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In addition, the specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims. The majority of the pending claims in this application are simply drawn to any shape "memory alloy other than a Ni:Ti-based alloy". Applicant argues that the specification provides adequate support for the claims since it gives ranges of target temperatures, processing temperature ranges for the substrates, base pressure during purging, etc. . . for the alloy systems listed in the specification. The examiner notes that the Jardine affidavit clearly establishes that far more information is needed to enable production of the various alloy systems and that process parameter generalizations are simply not enabling in this unpredictable field.

> Furthermore, each new alloy system requires the use of a different combination of target temperature, processing temperature of the wafer, distance from the target to the wafer and vacuum pressure ranges during processing in order to successfully manufacture two-way shape memory alloy devices, requiring months of work. This depends not only on the base alloy, but also on the element or elements chosen fox X in ternary and higher order alloys, greatly increasing the complexity. Development of new shape memory alloys for two-way shape memory effect devices requires tireless effort and experimentation to synthesize and characterize materials in the correct processing range to produce practical two-way shape memory effect devices. Ternary and higher order alloys require even more work in selecting the compositional ranges for the higher order elements.
>
> The nearly limitless choice of alloys, chemistries and processing conditions makes selection of the right alloy constituents and process variables an exceedingly difficult task for even an expert in the field, which has necessitated research, including experimentation and calculations, to determine the desired ranges of the various processing variables.

19. Applicant's specification simply supplies long lists of elements (e.g. see paragraphs [0069]-[0070]) and generalized conditions that might be used in forming two-way shape memory alloys. Adequate processing conditions for the various binary, ternary or higher alloy systems are not supplied. Specific composition ratios for the various alloys are not even provided. The Jardine affidavit clearly establishes that disclosures of shape memory alloys in this manner are not enabled.

20. Regarding the rejection of claims 12-15 and 19 under 35 U.S.C. 102(e) as being anticipated by Hill (U.S. Patent 6,775,046), applicant argues that Hill lacks support for non-titanium films. The examiner does not find this argument convincing since Hill discloses that alloys of titanium and nickel can be used, but also specifically discloses that other shape memory

alloys such as gold-copper may be used (e.g. see column 2, lines 32-49). Applicant argues that the Jardine affidavit establishes that "a person relying on the reference would not have sufficient expectation of success in developing new two-way shape memory effect processes with new alloys without undue experimentation". While the observations of the Jardine affidavit have been carefully considered, the Hill reference, nonetheless, clearly discloses that gold-copper may be used and therefore Hill does clearly establish an expectation of success for gold-copper. Applicant also argues that "Hill discloses a flat substrate that produces a flat thin film in its undistorted state". This argument does fails to note that the shapes of Hill may be three-dimensional (e.g. see paragraph spanning columns 10 and 11).

21. Regarding the rejection of claims 1-16 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ho (U.S. Publication No. 2002/0043456 and Sputter Deposition of NiTi Thin Film Shape Memory Alloy Using a Heated Target, Thin Solid Films 370, July 17, 2000, pp. 18-29) in view of Hill (U.S. Patent 6,775,046) and further in view of Bement (U.S. Publication 2002/0114108), the Jardine affidavit states that "it is my opinion that Au:Cu is not amenable to the two-way shape memory effect, using any process that varies the temperature of the target". This argument is not convincing since no factual evidence was presented to support the "opinion" and Hill specifically discloses that gold-copper may be used and therefore Hill does clearly establish an expectation of success for gold-copper. Obviousness does not require absolute predictability of success; instead, all that is required is there be a reasonable expectation of success. *In re O'Farrell*, 7 USPQ2d 1673, 1681 (Fed. Cir. 1988).

Conclusion

22. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Zimmerman whose telephone number is (571) 272-1547. The examiner can normally be reached on 8:30am-5:00pm, M-F. Supervisor Deborah Jones can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

24. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

John J. Zimmerman
Primary Examiner
Art Unit 1775

jjz
August 15, 2005